

## **IN THE SPECIFICATION**

Kindly replace the following paragraphs in the written description:

Page 2, first paragraph, i.e., lines 1-6;

[static filter] the at least one filtered pixel value is calculated from the weighted set of pixel values. This embodiment has, inter alia, the advantage that adaptivity of the filtering is obtained by using a separate weighting step and that a static filter is used in combination with the weighting. Instead of using a variable filter, which implementation is more complicated, the invention provides a simple adaptation of the pixel values, which in combination with a static filter results in adaptive filtering.

Page 5, second paragraph, i.e., lines 14-32;

Fig. 2 shows exemplary input samples of an adaptive filter according to the invention, e.g. a spatial median filter as shown in Fig. 3 or an spatial averaging filter as shown in Fig. 2. These input samples may also be used [in shows] to show a preferred example of input samples within one field. Dotted lines indicate image lines of a first field and continuous lines indicate image lines of a second field of a frame. A sample  $P_i$  is at a position of a calculated output sample. To calculate one filtered luminance sample, five samples  $P_i$ ,  $M_1$ ,  $M_2$ ,  $M_3$  and  $M_4$  are used as input. In an MPEG encoder, which is a preferable field of application of the invention, horizontal color sub-sampling has normally already taken place at the input, according to the CCIR 4:2:2 format. Therefore, a horizontal distance between color samples ( $P_{1c}$ ,  $M_{1c}$ ,  $M_{2c}$ ,  $M_{3c}$  and  $M_{4c}$  for U&V) is twice as large as for the luminance samples. Because experiments indicated that extra gain from the color samples is minor, color median processing can be skipped without significantly loosing quality. Median filtering per se is known in the art for its capability of preserving monotonic step edges and is therefore widely used for two-dimensional image noise smoothing. The implementation of a median filter requires a very simple digital non-linear operation: a sampled and quantized signal of length  $n$  is taken; across the signal, a window that spans  $m$  signal sample points is slid. The filter output is set

equal to the median value of these  $m$  signal samples and is associated with the sample at a center of the window. The median of  $m$  scalar  $X_i$  with  $i = 1, \dots, m$  can be defined as the value  $X_{med}$  such that for all  $Y$

$$\sum_{i=1}^m |X_{med} - X_i| \leq \sum_{i=1}^m |Y - X_i| \quad (1)$$

Page 9, third paragraph, i.e., lines 13-24;

Fig. 5 shows input samples in both spatial and temporal directions in which figure  $t$  denotes time. In frame  $F_0$  a set of pixels  $P_t, M_i$  is taken similar to the luminance pixels in Fig. 2. In addition, in this embodiment, pixel values  $P_{t1}$  and  $P_{t2}$  are taken from fields with same parity in both a previous frame  $F_{-1}$  and a future frame  $F_1$ . Here a window of seven pixels is considered: five pixels of the present field, one pixel of the previous field with same parity and one of the future field with same parity. It is advantageous to include filtering operations in the temporal direction, because both spatial and temporal noise are often present. A reduction of the level of noise can be useful for motion estimation either, provided that the motion estimation itself is thought and realized strictly related with the pre-processing part and consequently [no] not affected too much [affected] by the increased smoothness of the filtered image, otherwise the quality of the motion vectors can be worse, resulting in some additional coding noise that compromises the final result.